

PT-V5

*US Model
Canadian Model
AEP Model
UK Model
E Model*




Photo : AEP, UK, E model

AUDIO TIMER


SPECIFICATIONS

Power requirements	US, Canadian model: 120V ac, 60Hz AEP model: 220V ac, 50Hz UK model: 240V ac, 50Hz E model: 110–120 or 220–240V ac adjustable, 50 or 60Hz adjustable
Power consumption	8W
Timer display	12 hour system (US, Canadian model) 24 hour system (AEP, UK, E model)
Timer setting	Up to four on/off operations with an accuracy measured in minutes.
Clock	Synchronized with power line frequency
Power backup duration	60 minutes (when the batteries have been charged at least 60 hours)
AC outlets	US, Canadian model: one switched, one unswitched total 900W AEP model: one switched, one unswitched total 500W UK model: two switched, total 500W E model: one switched, one unswitched total 400W
Dimensions	AEP model: approx. 355 x 55 x 255 mm (w/h/d) (14 x 2 $\frac{1}{4}$ x 10 $\frac{1}{8}$ inches) including projecting parts and controls US, Canadian, UK, E model: approx. 355 x 55 x 245 mm (w/h/d) (14 x 2 $\frac{1}{4}$ x 9 $\frac{3}{8}$ inches) including projecting parts and controls
Weight	Approx. 2.2kg (4 lbs 13 oz) net

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.



SONY®

SERVICE MANUAL

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

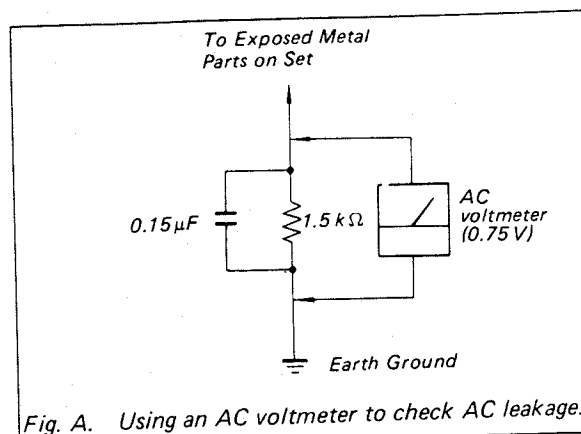
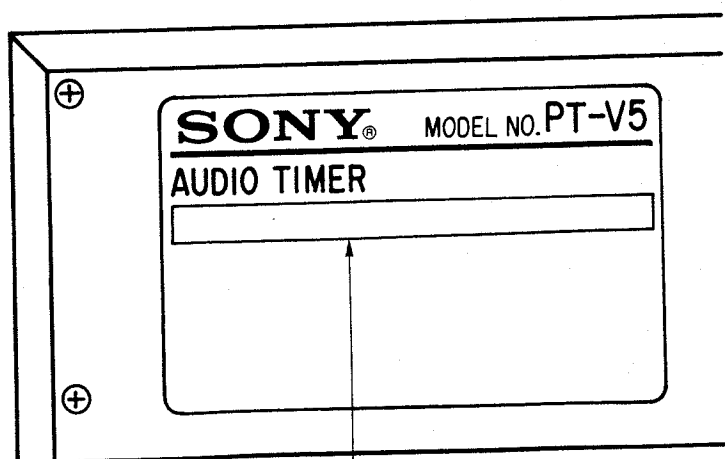


Fig. A. Using an AC voltmeter to check AC leakage.

MODEL IDENTIFICATION

— Specification on the Jack Plate —



US, Canadian model:	AC: 120V ~ 60Hz	3.5W
AEP model:	AC: 220V ~ 50Hz	3.5W
UK model:	AC: 240V ~ 50Hz	3.5W
E model:	AC: 110-120V, 220-240V ~ 50/60Hz	3.5W

SECTION 1

OUTLINE

1-1. GENERAL DESCRIPTION

FEATURES

Daily timer for up to 4 timer programs

Up to four timer programs can be set to turn on and off. You can use the timer to record a radio program for listening at a later time, or to wake up with music. An alarm can be set to sound when the connected equipment is turned on.

Accurate and easy setting

The clock can be easily set to the second. The display blinks to show you what is to be set next.

READY timer function

You can set the timer to turn on after 59 minutes or less regardless of the turn-on timer setting, with or without an alarm.

SLEEP timer function

You can set the timer to turn off after 59 minutes or less regardless of the turn-off timer setting. You can fall asleep listening to music without worrying about leaving the equipment on all night.

Manual on/off

At any time, you can manually control the power supplied to the connected equipment.

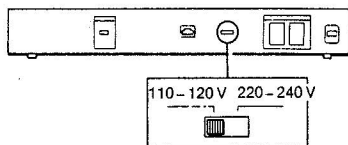
Power backup

A built-in rechargeable battery keeps the clock operating and the timer programs in the memory circuit as long as a power failure lasts no more than 60 minutes.

OPERATING VOLTAGE

Before connecting the timer to the power source, check that the operating voltage is the same as the local power line voltage.

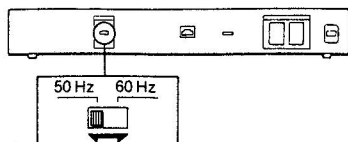
The US, Canadian model operates on 120V ac. The AEP model operates on 220V ac. The UK model operates on 240V ac. The E model operates on either 110–120 or 220–240V ac. The voltage selector is located on the rear panel. If the selector must be reset, disconnect the ac power cord and slide the selector to the desired voltage.



FREQUENCY SELECTOR SETTING (E Model)

The E model is provided with a frequency selector located at the rear. Be sure to set this selector to the appropriate position depending on your local power line frequency.

If frequency setting is improper, the clock gains or loses.



For the Customers in the UK Model

Important

The wires in the mains lead are coloured in accordance with the following code:

Blue: Neutral

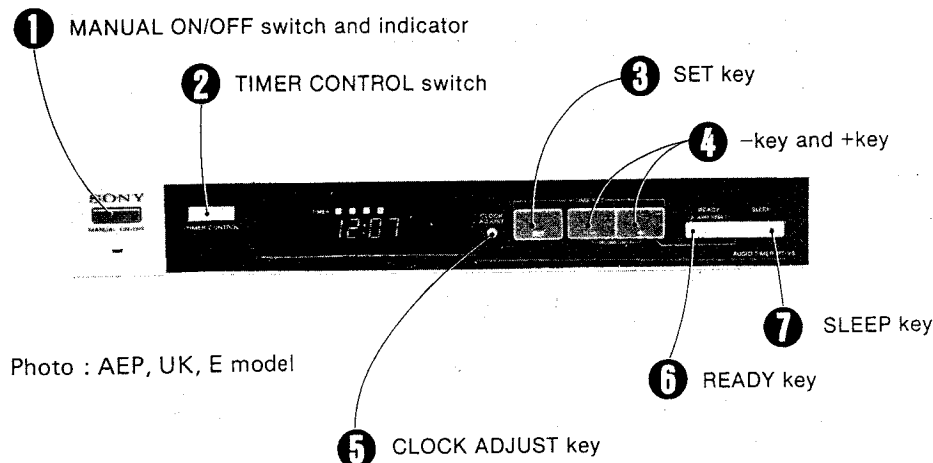
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

LOCATION AND FUNCTION OF CONTROLS (24 hour display system)



1 MANUAL ON/OFF switch and indicator

Press this switch to turn the power of the equipment connected to the SWITCHED ac outlet on or off without using the timer function. This switch operates regardless of the timer setting. The power indicator lights up when power is supplied to the connected equipment.

2 TIMER CONTROL switch

Press this switch to control the power supplied to the connected equipment with the timer. The TIMER indicator appears in the display window when the timer control function is in operation. Press this switch again to turn off the timer control function.

3 SET key

Press this key after the figures of the hour have been set by the - key or + key. Repeat for the minutes. Also press this key to display the timer program to set or to check.

4 - key and + key

Press these keys to change the figures of the hours and minutes.

5 CLOCK ADJUST key

Use this key to set the clock time.

6 READY key

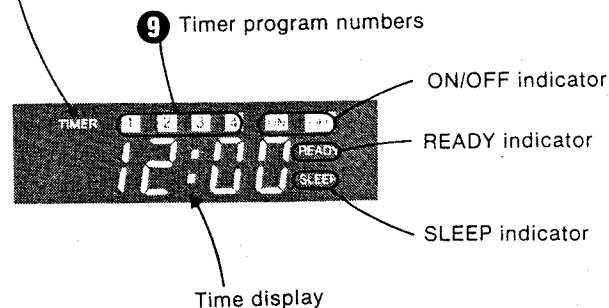
Press this key to turn the power on after 0-59 minutes regardless of the timer setting. Also use this key to sound the alarm when the power is turned on by the timer.

7 SLEEP key

Press this key to turn the power off after 0-59 minutes regardless of the timer program.

Display window

8 TIMER indicator



8 TIMER indicator

This indicator appears when the TIMER CONTROL switch is pressed to on.

9 Timer program numbers

1-4 appear when you have set the timer programs. One of these indicators flickers indicating that the power is supplied to the connected equipment by the corresponding timer programs.

CLOCK ADJUSTMENT (24 hour display system)

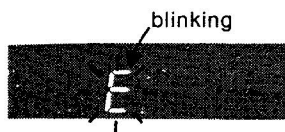
SETTING THE CLOCK

Before the timer can be used, it must first be set to the correct time.

Proceed as follows.

- 1 Connect the power cord to a wall outlet.

Display window

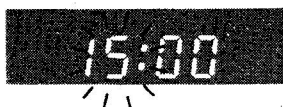


- 2 Press the CLOCK ADJUST key with a pencil or similar object.



To set the clock to 15:30, for example, proceed as follows.

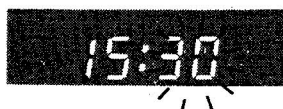
- 3 Press the - key or + key to set the hour.



- 4 Press the SET key.



- 5 Press the - key or + key to set the minutes.

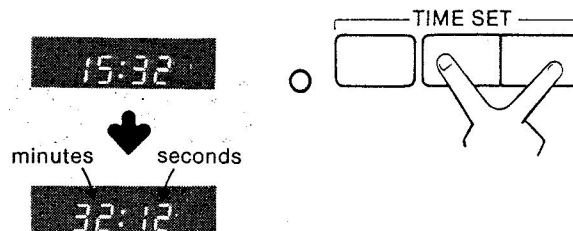


- 6 As soon as you hear the time signal on the telephone, radio or TV, press the SET key.

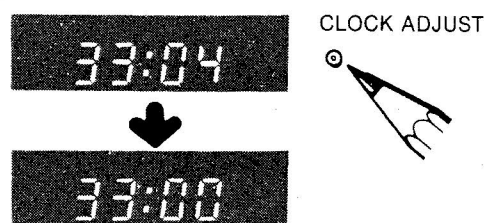


TO DISPLAY THE TIME IN SECONDS

Press the - key and + key at the same time.



To start the clock operating from 0 seconds, press the CLOCK ADJUST key.



To return the display to the normal mode, press the - key and + key at the same time.

TIMER SETTING (24 hour display system)

SETTING THE TIMER

This timer can be set to control up to four on/off operations of the connected audio equipment.

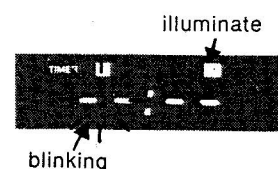
Note

Be sure not to overlap the setting for the on/off times of the programs.

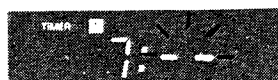
To turn on the equipment at 7:30 and turn it off at 9:00, for example, proceed as follows.

To set the turn-on time

- 1 Press the SET key.



- 2 Press the - key or + key to set the hour, then press the SET key.



blinking

- 3 Press the - key or + key to set the minute, then press the SET key.



The timer is ready for the turn-off time to be set.

If you do not want to set the turn-off time, keep pressing the SET key until the display changes back to clock.

To set the turn-off time

- 4 Press the - key or + key to set the hour, then press the SET key.



illuminate

- 5 Press the - key or + key to set the minute, then press the SET key.



One program is now memorized, and the timer is ready for the next program to be set.

Repeat steps 2 to 5 to set another program.

After setting the turn-off time of program 4, the display will return to the clock mode.

If you do not want to set other programs, press the SET key until the display show the clock.

Note

When a turn-on time and a turn-off time are set for the same time, the connected equipment will be turned off and immediately turned on.

Example: Timer 1 ON 7:30 OFF 9:00
Timer 2 ON 9:00 OFF 9:30
Actual operation ON 7:30 OFF 9:30

However when the turn-on and the turn-off timer settings are overlapped, the later setting will not activate.

Example: Timer 1 ON 7:30 OFF 9:00
Timer 2 ON 8:00 OFF 9:30
Actual operation ON 7:30 OFF 9:00

AFTER SETTING ALL TIMER PROGRAMS

When all timer programs have been set, press the TIMER CONTROL key to engage the timer control function. The TIMER indicator will appear on the display window.

The corresponding program number in the display window will flicker when the power is turned on by the timer.



flickering

If you do not want the timer to operate

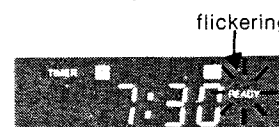
Press the TIMER CONTROL key so that the TIMER indicator will disappear.

TO TURN ON THE CONNECTED EQUIPMENT WITH AN ALARM

- 1 Press the SET key until the program to which you want to add the alarm is displayed.



- 2 Press the READY key. The READY indicator will appear and flicker.



flickering

- 3 Press the SET key to display the clock. The READY indicator will illuminate.

To shut off the alarm

Press the READY key.

To cancel the alarm

Press the SET key until the program you have set the alarm for is displayed, then press the READY key.



Note

Be sure not to press the READY key when the clock is displayed; otherwise the timer will be set to the READY timer mode (page 7.)

TO RESET A TIMER SETTING

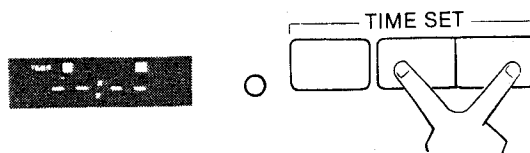
Press the SET key until the program you want to reset is displayed, then proceed with steps 2 to 5 in the left column.

TO ERASE A TIMER SETTING

- 1 Press the SET key until the program you want to erase is displayed.



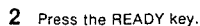
- 2 Press the - key and + key at the same time.



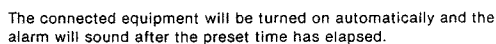
When you erase the turn-on time, the turn-off time is erased automatically and vice-versa.

Independently of the timer programs, you can set the timer to automatically turn on connected equipment and sound an alarm after an interval of 59 minutes or less. You can also cancel the alarm.

1 Be sure that the clock is displayed. (24 hour display system)



3 Press the + key to set the display for 45 minutes later.



To shut off the alarm sound

Press the **READY** key. The alarm will be shut off and the display will revert to the current time.

To turn on the connected equipment without an alarm

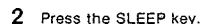
After you preset the time, simply press the SET key.



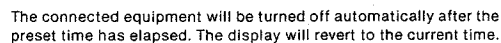
To revert the display to the current time, press the READY key.

Independently of the timer program, you can set the timer to automatically turn off connected equipment after an interval of 59 minutes or less.

1 Be sure that the clock is displayed. (24 hour display system)



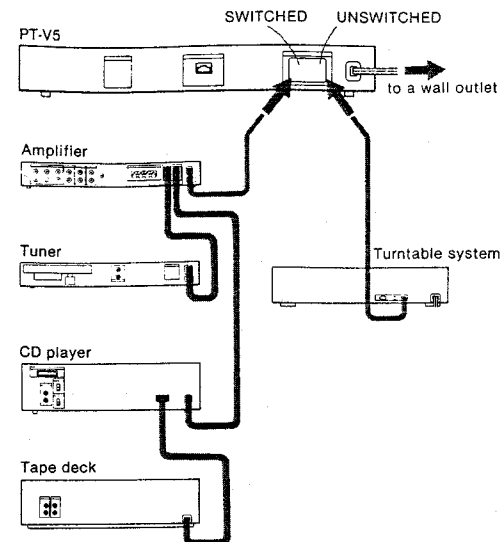
3 Press the **-** key to set the display for 20 minutes later.



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
Email:- enquiries@mauritron.co.uk

POWER SOURCE CONNECTION

Connect the equipment which you want to switch on and off to the SWITCHED ac outlet. Connect the equipment which is not to be used with the timer control to the UNSWITCHED ac outlet (for US, Canadian, AEP, E models.)



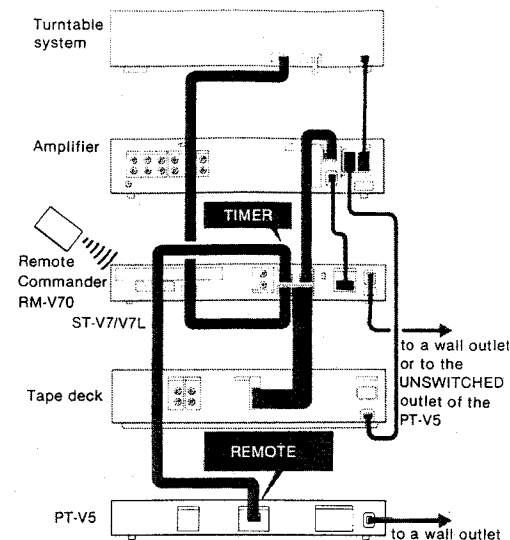
Set the power switch of the equipment connected to the SWITCH-ED outlet to ON.

Note

Note
Do not connect the power cord of a television receiver to these outlets.

REMOTE CONTROL CORD CONNECTION

If you connect the Sony system control tuner ST-V7V7L and a stereo system equipped with a remote control connector (for example, TA-V7 amplifier and TC-V7 tape deck etc.) to this timer as illustrated, you can control the whole system with the RM-V70 Remote Commander (supplied to the ST-V7V7L).

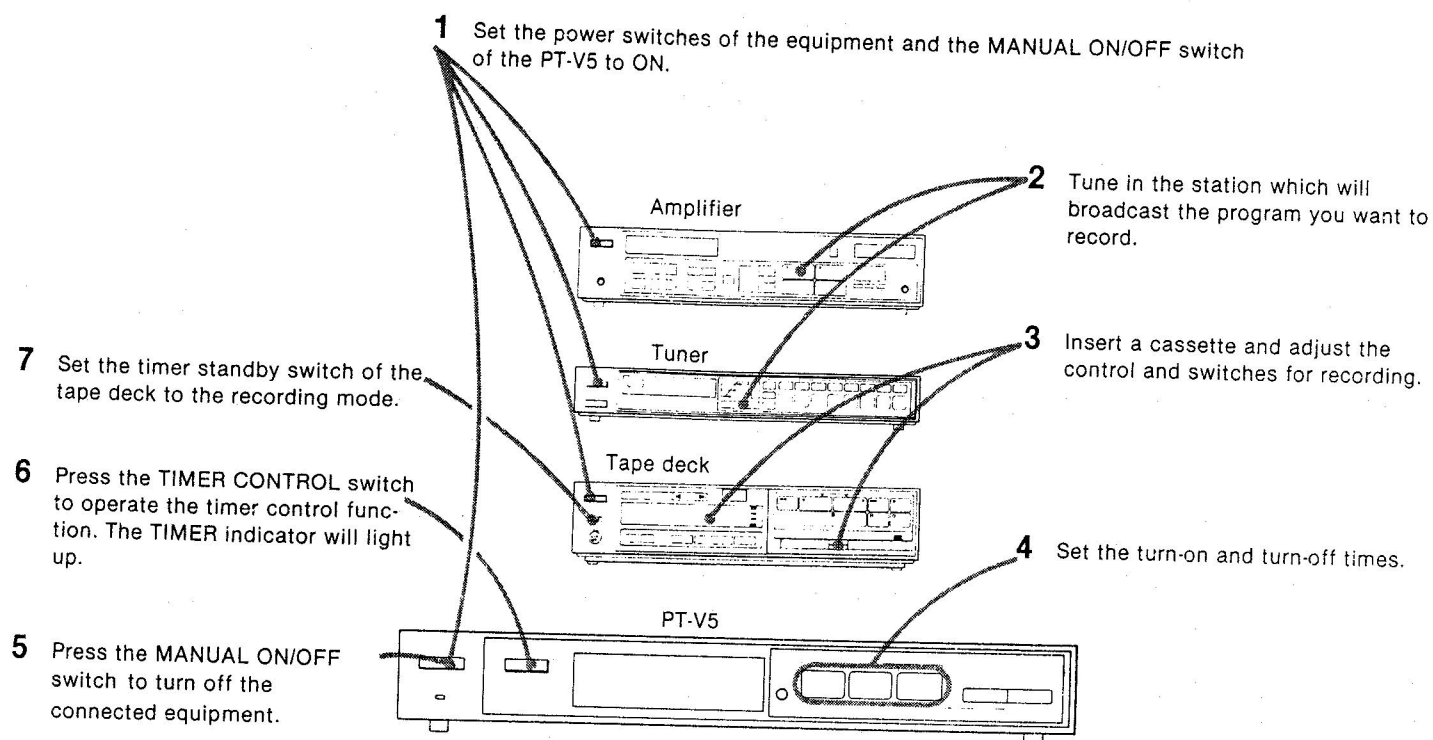


Control signals from the Remote Commander in the form of the infrared rays are received by the remote control detector provided on the ST-V7/V7L. The signals delivered to the timer turn on or off all components connected with the remote control cord.

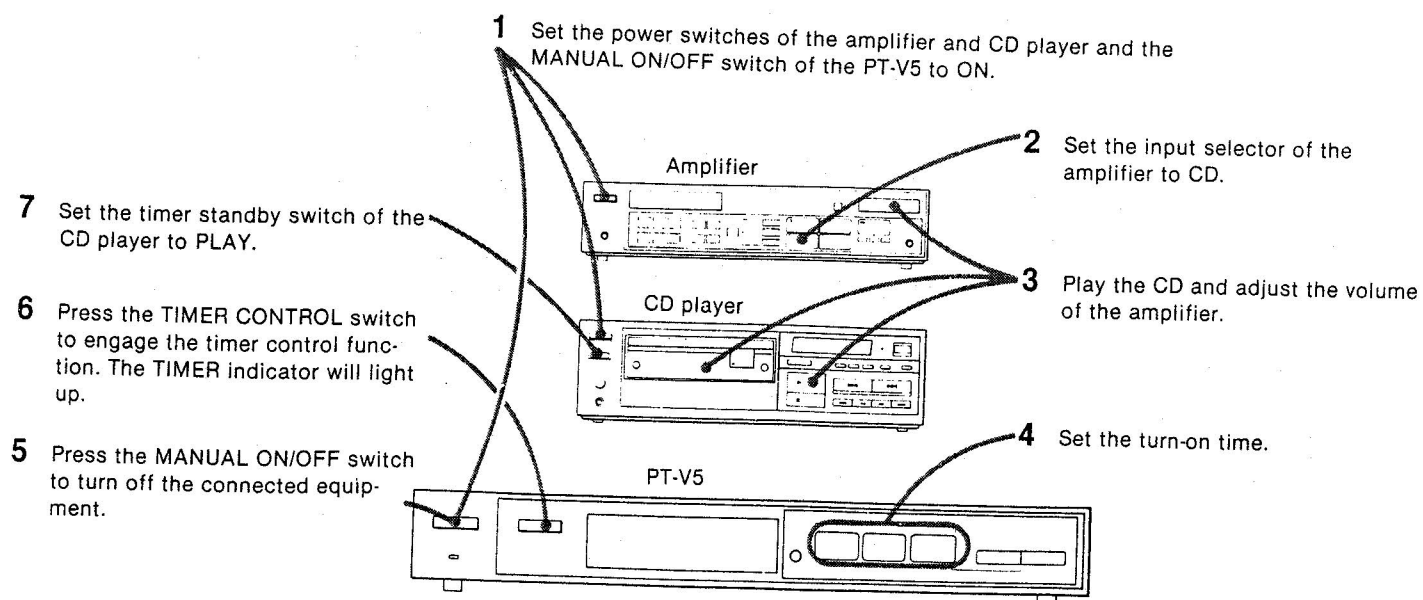
EXAMPLES OF TIMER USE

TIMER ACTIVATED RECORDING

A tape deck to be used for timer activated operation should be equipped with a timer standby function. Read the instruction manual of the tape deck.

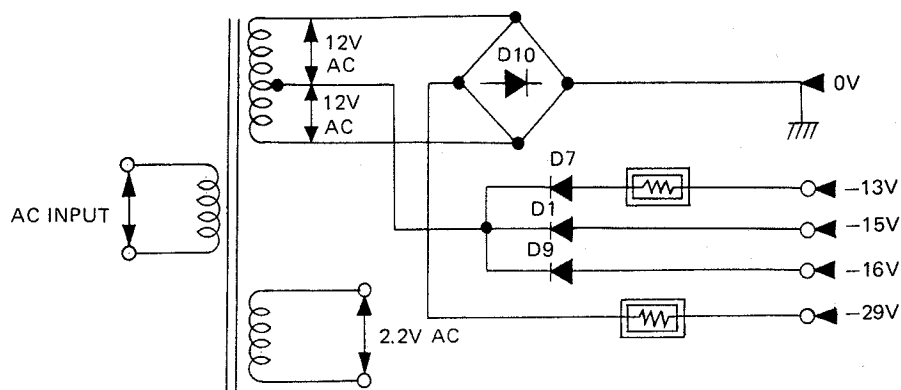


TO WAKE UP TO A CD PROGRAM



1-2. TROUBLESHOOTING

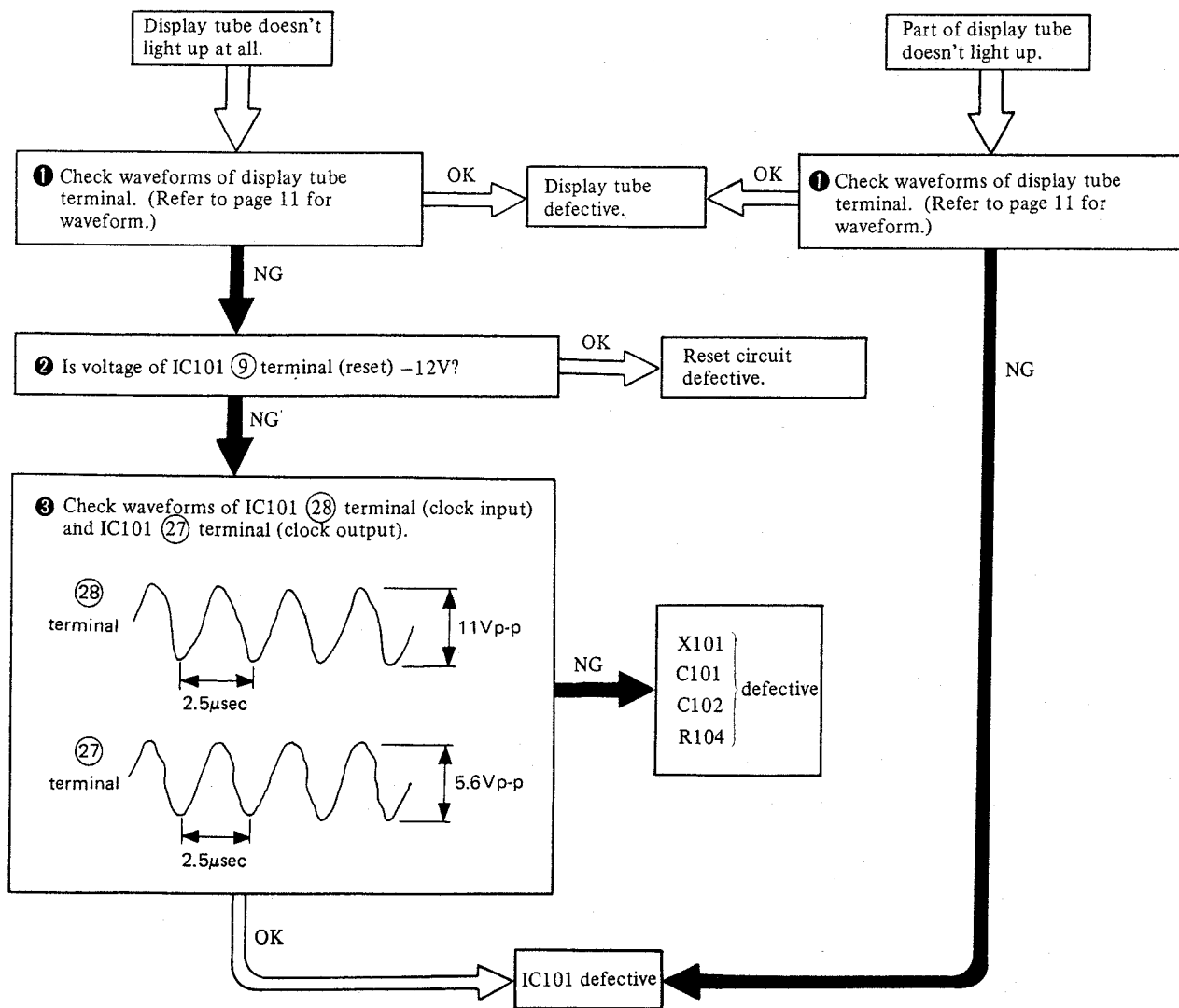
1. Power supply voltage check

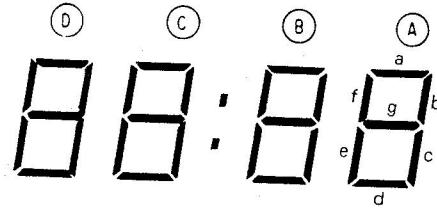


Note: The following checks should be performed only after checking power supply voltage.

2. Fluorescent display tube doesn't light up.

The display of this unit lights up dynamically by matrix of IC101 (18), (19), (21) - (25), (37), (38) terminal and IC101 (31) - (36) terminal.





fluorescent
display tube
terminal No.

IC101
terminal No.

3 ⑮ SLEEP, "a" segment
drive signal
PM drive signal (US,
Canadian model)

5 ⑰ "b" segment
drive signal
AM drive signal (US,
Canadian model)

6 ⑲ "c" segment
drive signal

8 ⑳ "d" segment
drive signal

9 ㉑ "e" segment
drive signal

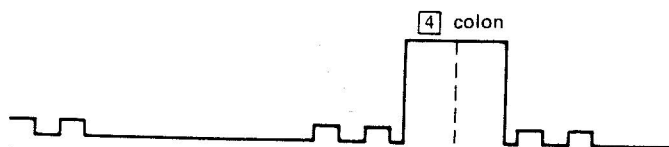
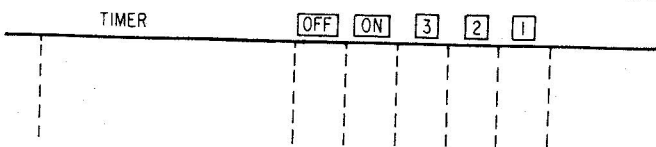
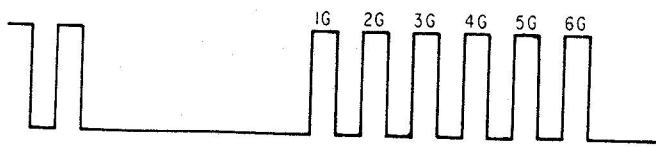
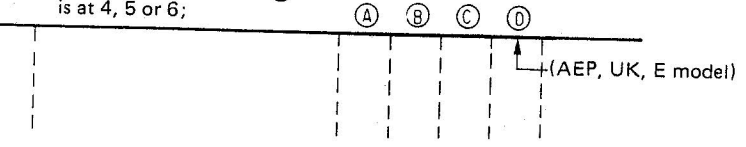
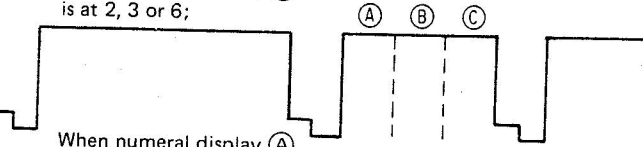
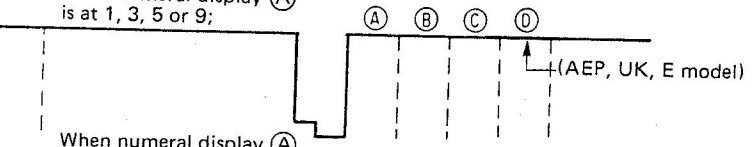
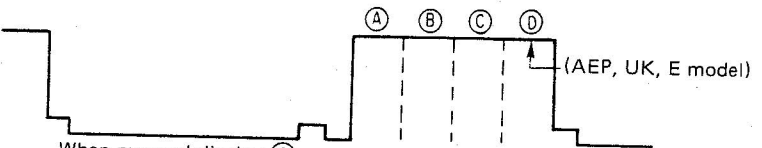
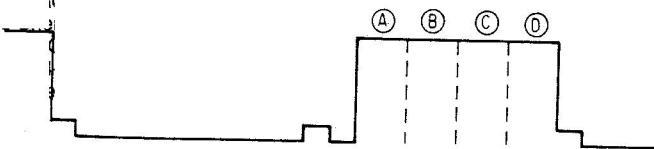
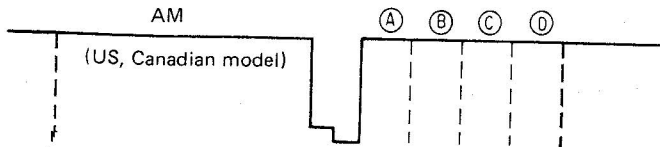
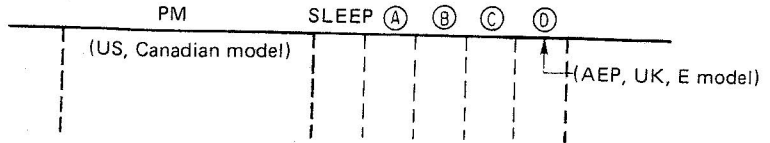
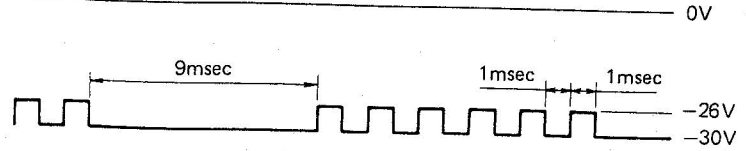
18 ㉒ "f" segment
drive signal

19 ㉓ "g" segment
drive signal

21
17
14
10
7
4 ㉔
㉕ grid drive signal

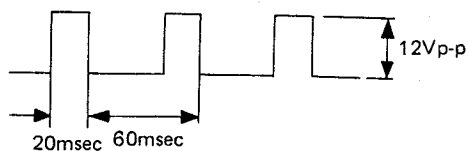
20 ㉖
㉗ TIMER, ①, ②, ③,
OFF, ON drive signal

22 ㉘ colon, ④ drive signal



3. Defective response of key switch

- ① Hold the key switch down and check waveforms of IC101 ③ - ⑤ terminal. (See Table 1.)



NG

Key board switch defective.

OK

IC101 defective

Note: Make sure that the key switches are not being pressed mechanically.

IC101 terminal No.	⑩	⑪	⑫
③	-	+	
④	SET	SLEEP	TIMER CONTROL
⑤	CLOCK ADJUST	READY	MANUAL ON/OFF

Table 1. Input signal matrix

4. AC power voltage does not appear to an ac outlet (switched).

- ① Confirm that LED turns on when MANUAL ON/OFF switch is ON.

OK

Relay defective

NG

- ② Is base voltage of Q101 -14V?

OK

Q101 defective

NG

- ③ Is voltage of IC101 2 terminal -0.25V?

OK

R103 defective

NG

- ④ Check waveform of IC101 ②⑦ terminal.



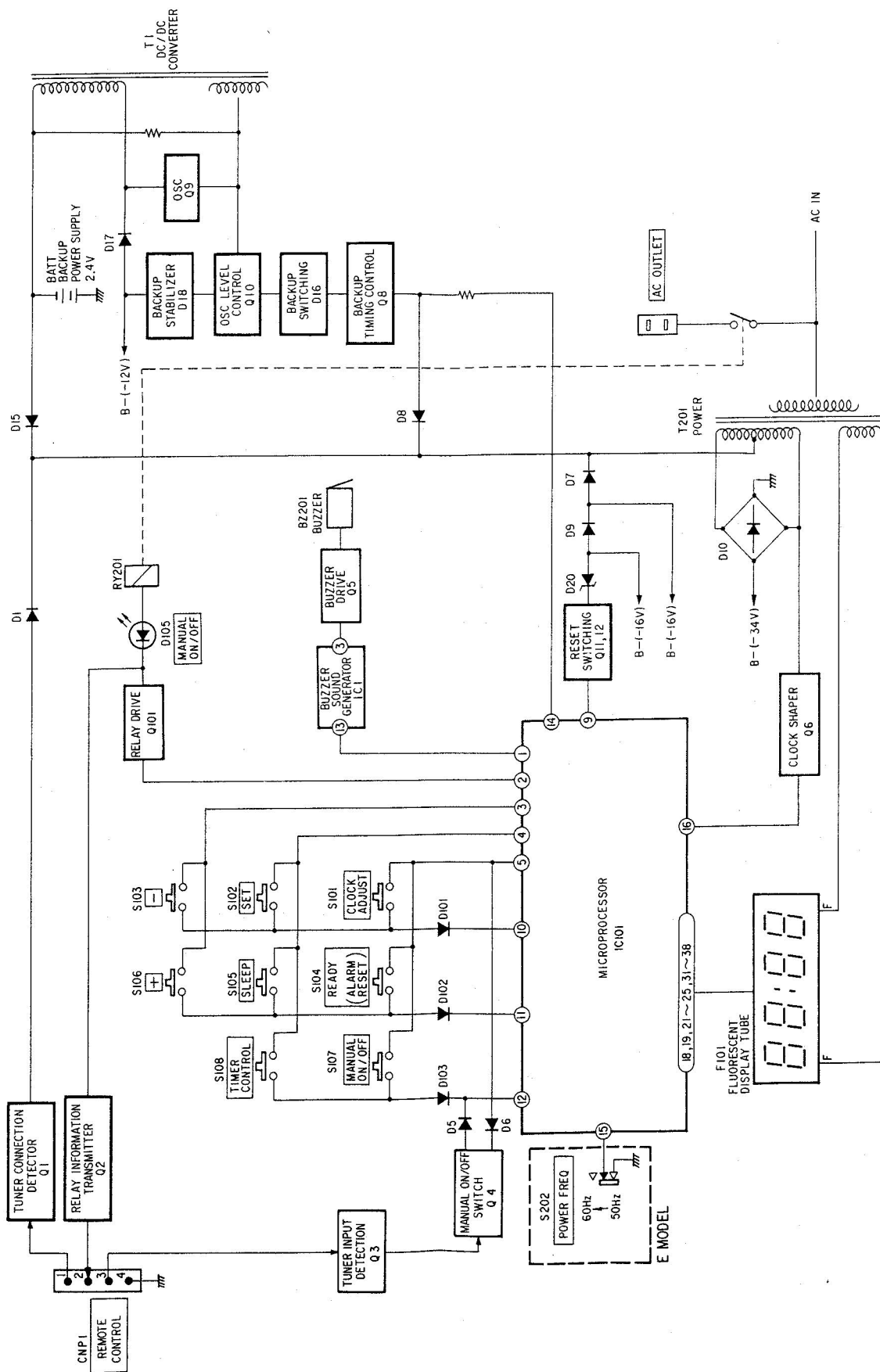
NG

X101
C101
C102
R104 } defective

OK

IC101 defective

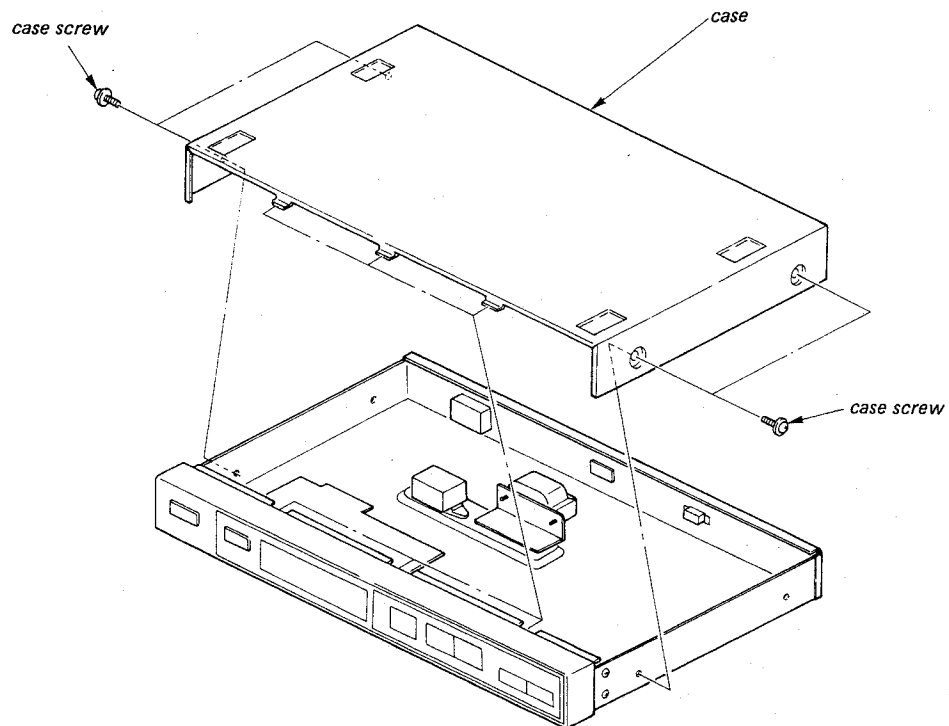
1-3. BLOCK DIAGRAM



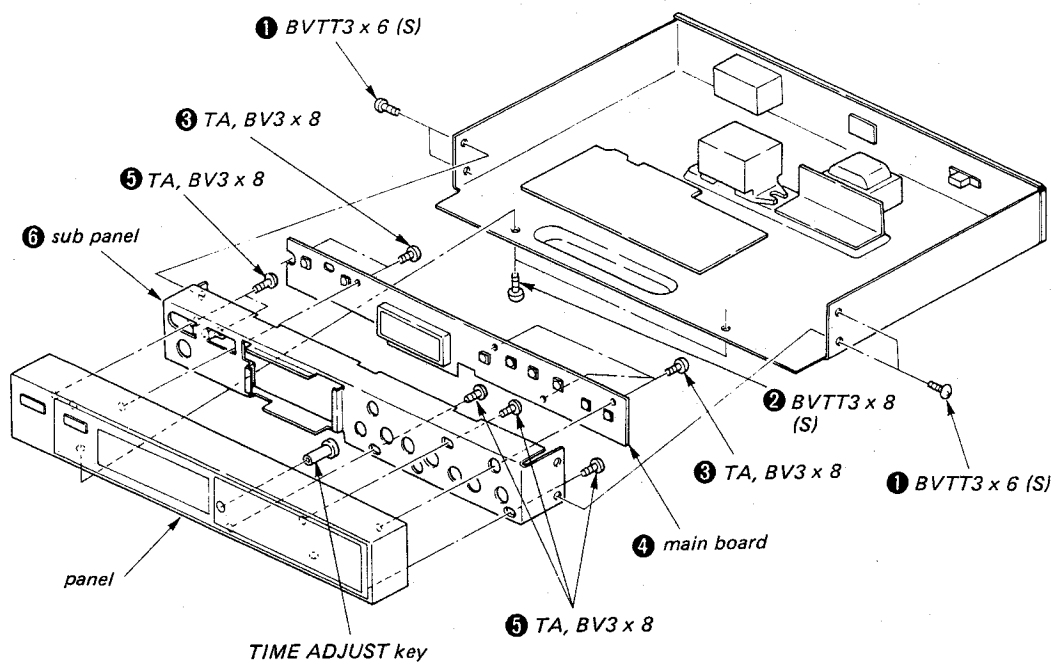
SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

CASE

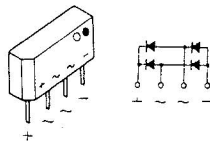
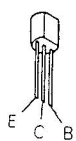
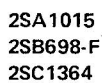
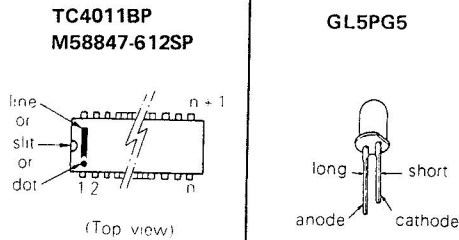


MAIN BOARD, PANEL

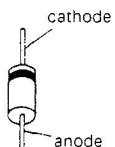


MEMO

Semiconductor Lead Layouts



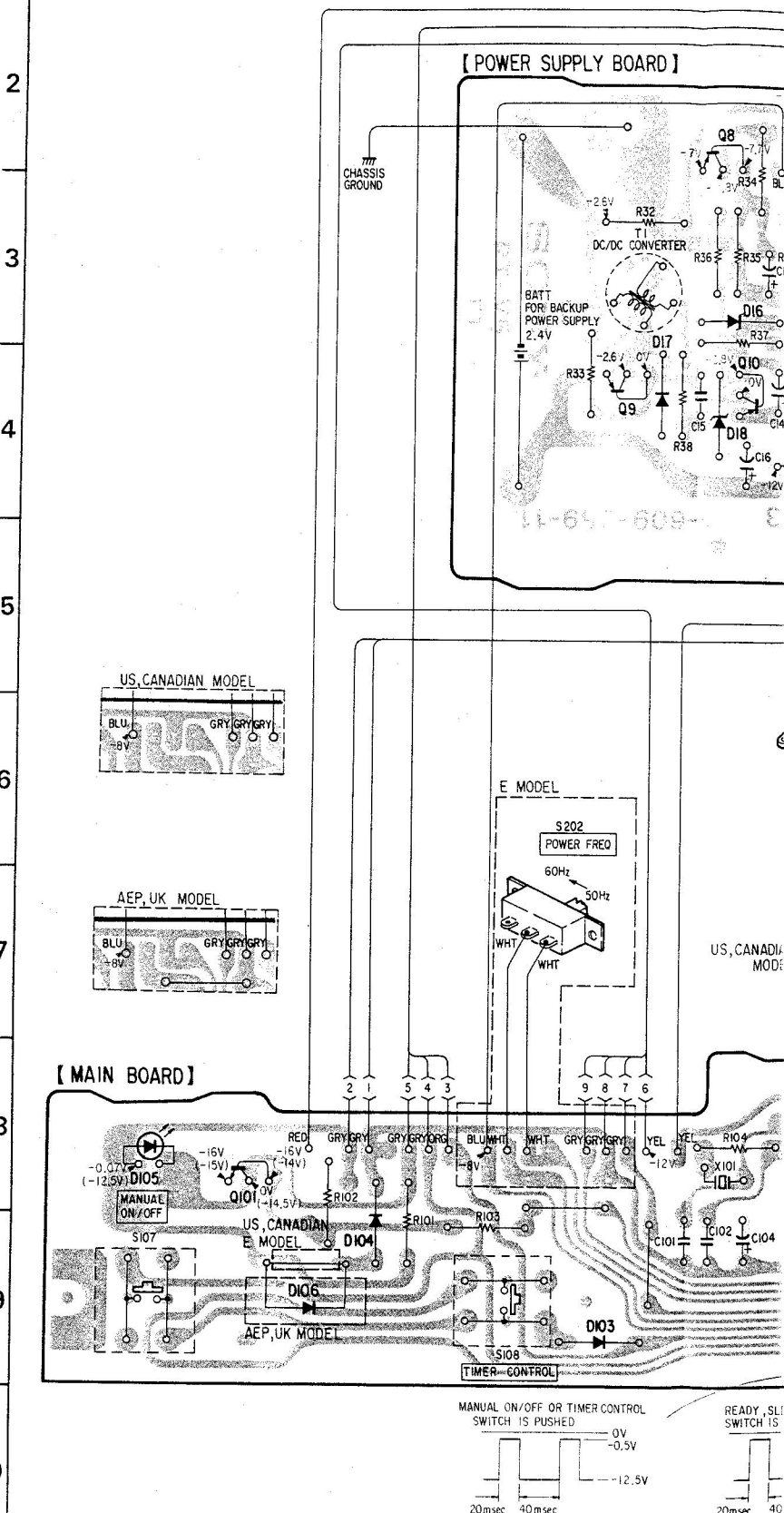
1S1585
ERB12-04RK
RD5.6E-B2Z
RD6.2E-B3
RD10E-B2
RD11E-B3
RD13E-B2
RD30E-B4

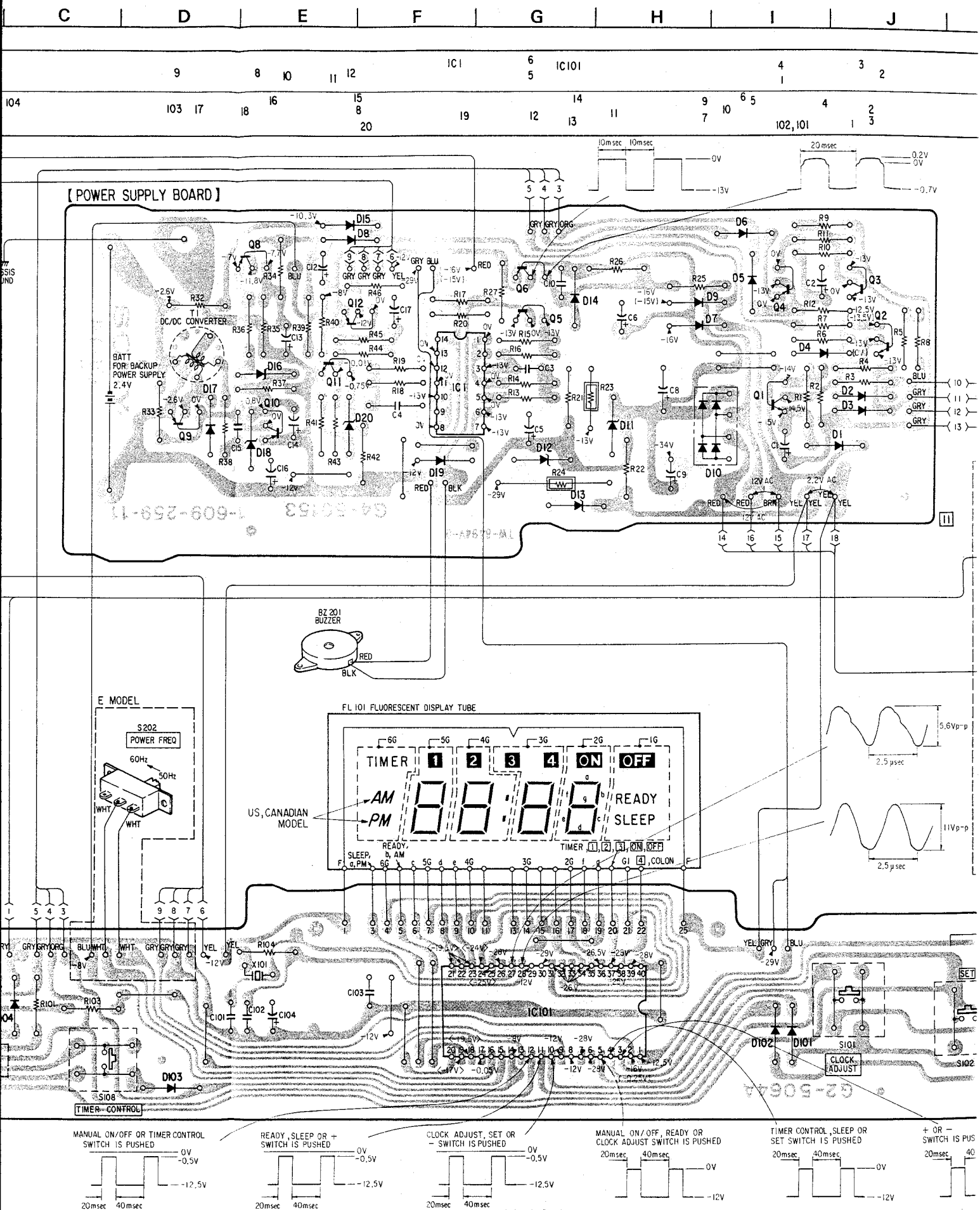


Note:

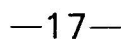
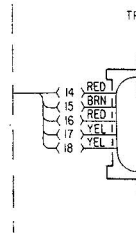
- : parts extracted from the component side.
- : B- pattern

		A	B	C	D
1	Q IC		101		9 8 10
	D	105		104	103 17 18 16
			106		

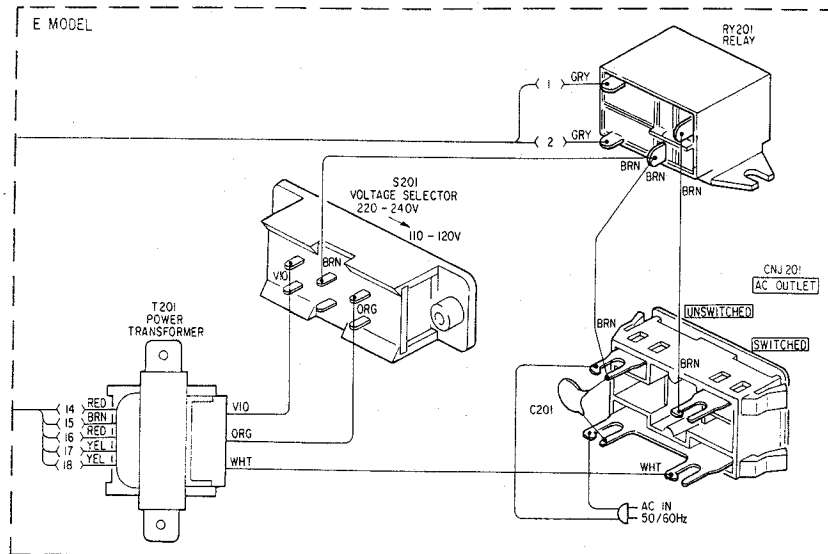




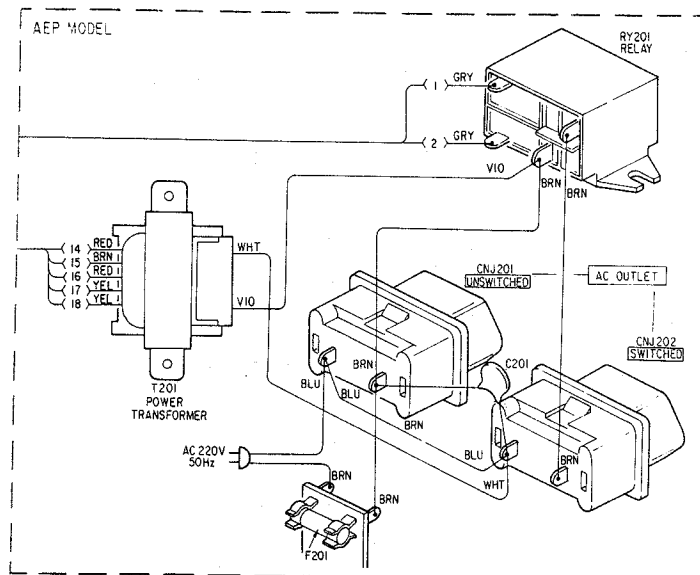
E MODEL



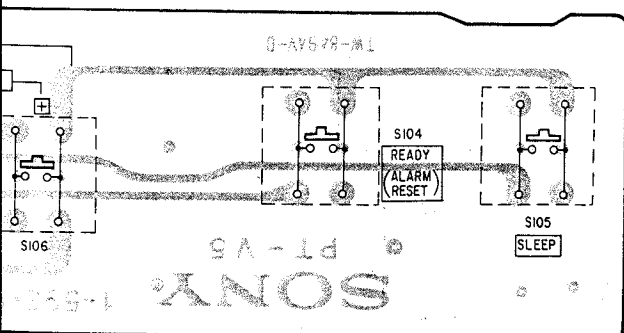
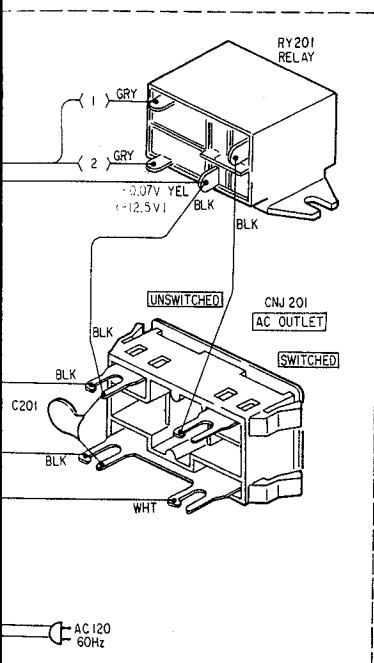
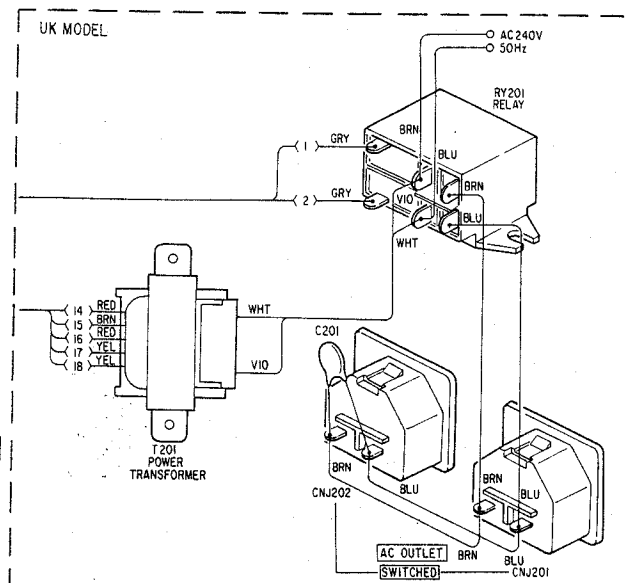
E MODEL



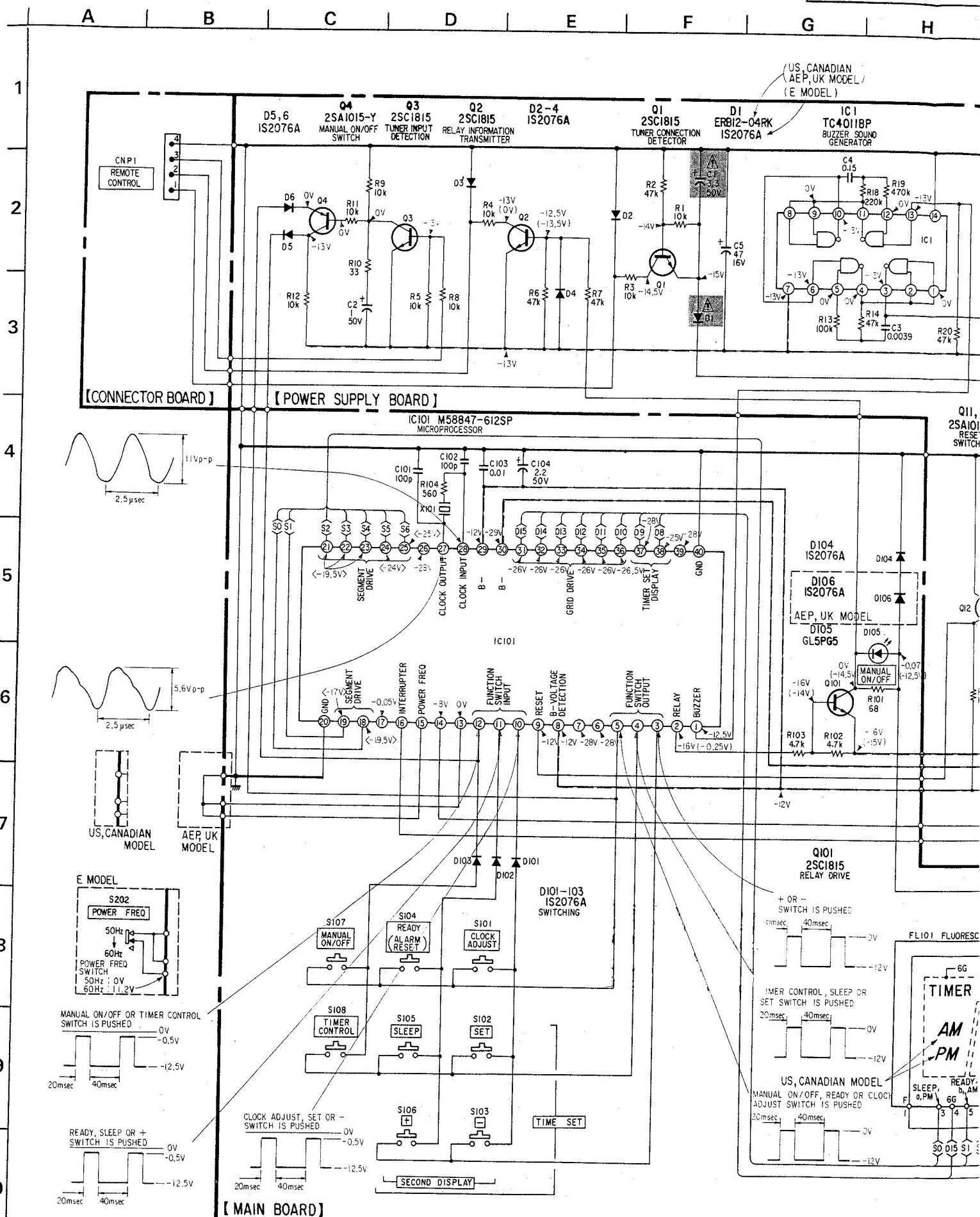
AEP MODEL

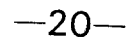


UK MODEL

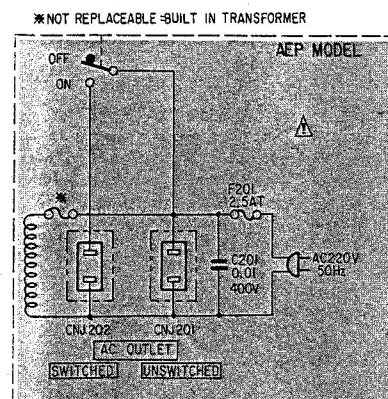
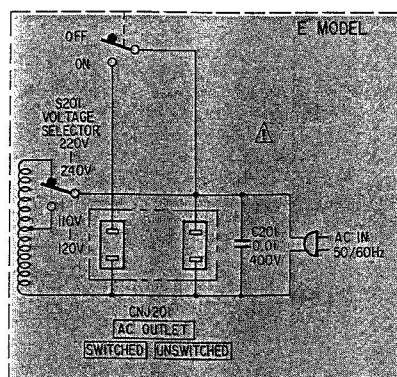
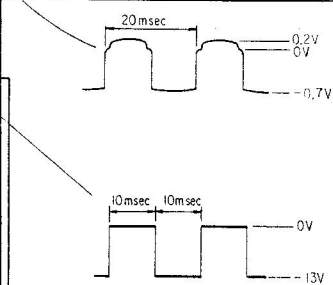
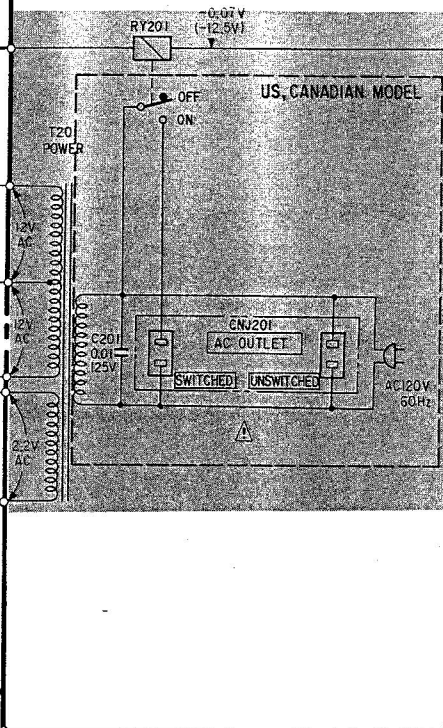
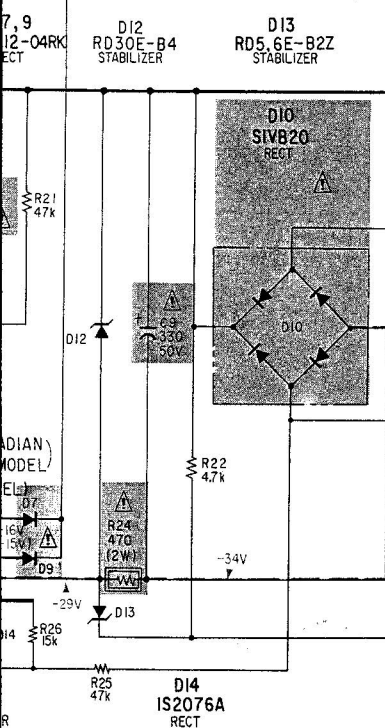
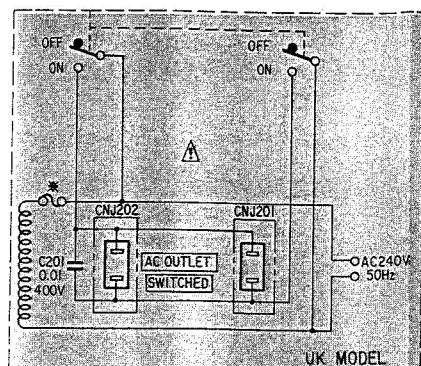
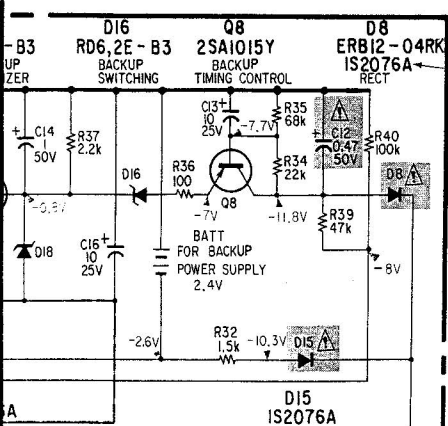


3-2. SCHEMATIC DIAGRAM





L M N O P Q R



P

Q

R

1

2

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4

5

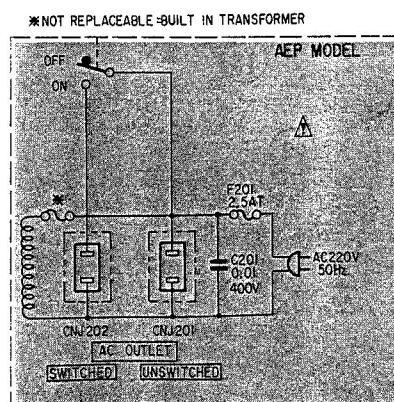
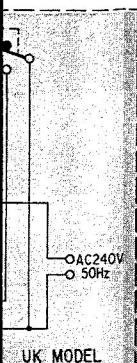
6


7


8

9


10



Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

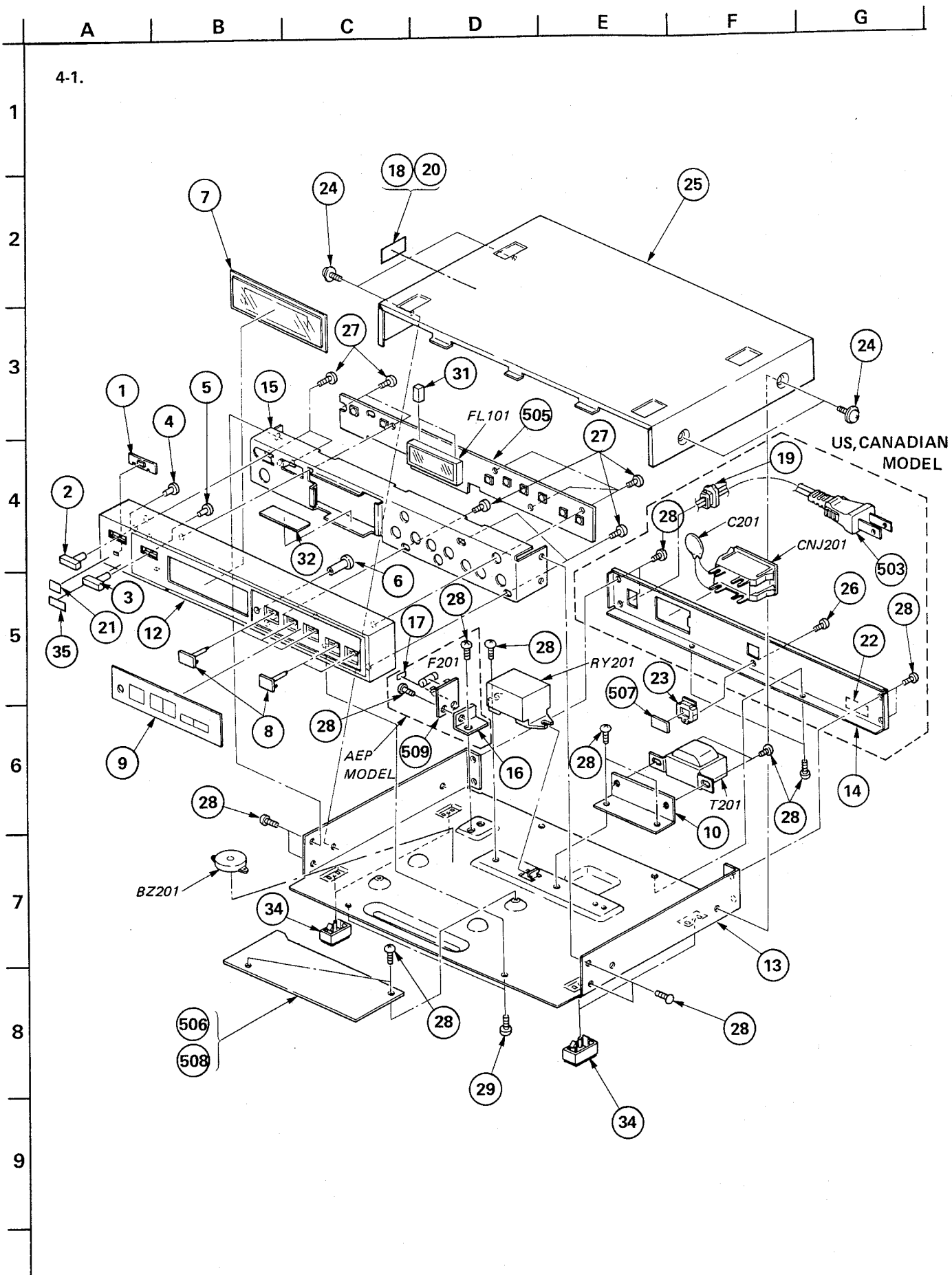
Note:

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$
50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, $\frac{1}{4}\text{W}$ unless otherwise noted.
 $\text{k}\Omega$: 1000 Ω , $\text{M}\Omega$: 1000 $\text{k}\Omega$
-  : nonflammable resistor.
- --- : B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions.
() : relay ON
< > : When fluorescent display tube indicates "12:00".
- Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with respect to ground.

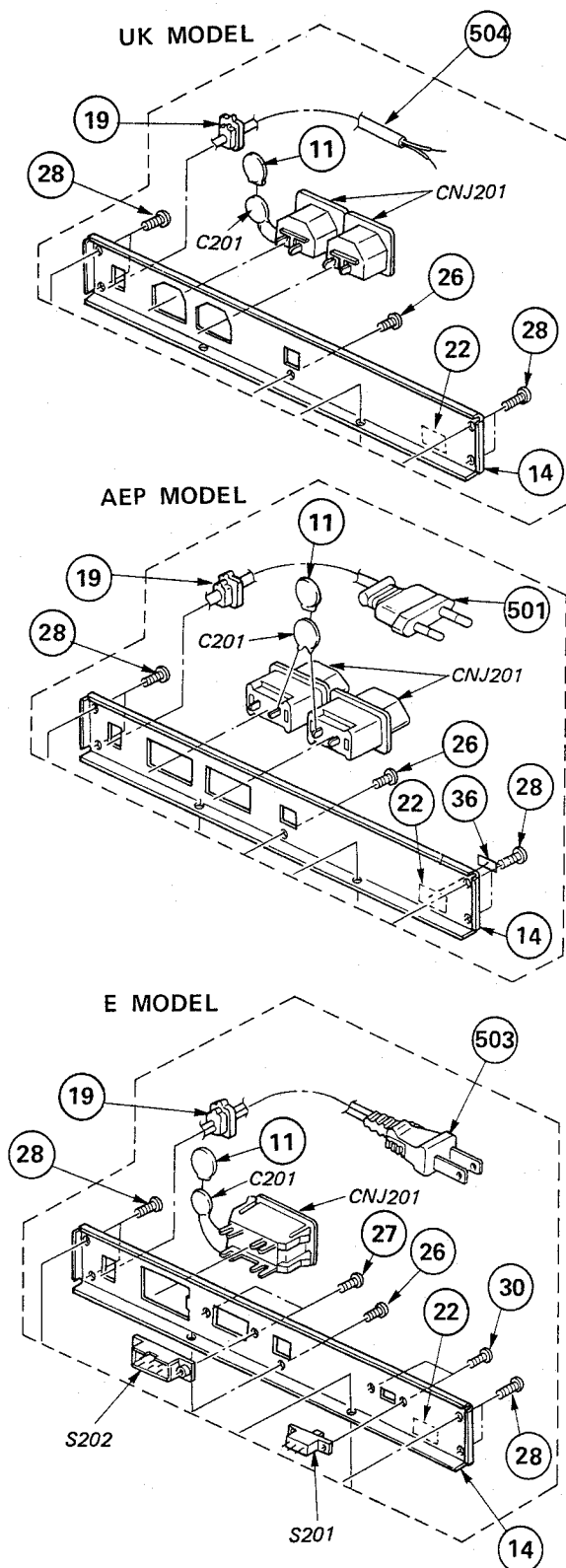
Note: Voltages are measured with a VOM (50k Ω /V).

SECTION 4

EXPLODED VIEWS & PARTS LIST



4-2.



GENERAL SECTION

No.	Part No.	Description
1	2-193-908-00	COVER, LED
2	2-391-902-01	KEY (A), MANUAL/TIMER
3	2-391-902-11	KEY (B), MANUAL/TIMER
4	2-391-903-01	STOPPER (A), KEY
5	2-391-903-11	STOPPER (B), KEY
6	2-391-904-00	KEY, TIME ADJUST
7	2-391-905-00	COVER, INDICATOR
8	2-391-906-00	KEY, JOINT
9	2-391-907-00	SHEET, BUTTON
10	♣;2-391-910-00	BRACKET, TRANSFORMER
11	2-391-911-00	(AEP,UK,E)....COVER, CAPACITOR
12	2-391-912-00	PANEL
13	♣;2-391-913-00	CHASSIS
14	♣;2-391-914-11	(US,Canadian)...PLATE, JACK
14	♣;2-391-914-21	(AEP).....PLATE, JACK
14	♣;2-391-914-31	(UK).....PLATE, JACK
14	♣;2-391-914-41	(E).....PLATE, JACK
15	♣;2-391-915-00	PANEL, SUB
16	♣;2-391-923-00	(AEP).....BRACKET, FUSE
17	♣;3-701-948-18	(AEP).....LABEL, FUSE
18	♣;3-703-043-21	(UK).....LABEL, CAUTION, MAIN
19	3-703-244-00	BUSHING, CORD
20	♣;3-703-678-00	(US).....LABEL, CAUTION, NEW UL
21	3-703-710-01	(US,Canadian,AEP,E)...STICKER, SONY SYMBOL (RED)
21	3-703-713-01	(UK)....STICKER, SONY SYMBOL (RED)
22	♣;4-844-449-00	LABEL
23	4-882-034-00	SPACER, TERMINAL, 2 GANG
24	4-886-821-11	SCREW, M3 CASE
25	4-886-845-11	CASE
26	7-685-134-21	SCREW +P 2.6X8 TYPE2 SLIT
27	7-685-646-71	SCREW +BVTP 3X8 TYPE2 SLIT
28	7-685-871-01	SCREW +BVTT 3X6 (S)
29	7-685-872-01	SCREW +BVTT 3X8 (S)
30	7-621-255-35	(E)....SCREW +P 2X5
31	9-911-846-XX	CUSHION, INDICATION TUBE
32	9-911-863-XX	SHEET, INSULATING, TUBE
34	X-4886-405-1	FOOT ASSY
35	3-701-690-00	(UK)....LABEL (MADE IN JAPAN)
36	3-703-676-00	(AEP)....LABEL APPROVAL

ACCESSORY & PACKING MATERIAL

Part No.	Description
♣.1-526-565-00	(E1)....AC PLUG ADAPTOR
2-391-922-00	INDIVIDUAL CARTON
3-701-630-00	BAG, POLYETHYLENE (FOR INSTRUCTION MANUAL)
3-773-328-11	(AEP,UK,E).....MANUAL, INSTRUCTION
3-773-328-21	(US,Canadian)...MANUAL, INSTRUCTION
3-773-328-41	(AEP).....MANUAL, INSTRUCTION
3-795-559-11	CARD, CONTROL
♣;4-875-574-00	SHEET, PROTECTION (FOR SET)
4-886-997-00	CUSHIN (RIGHT-E), UPPER
4-886-998-00	CUSHION (LEFT-E), UPPER
4-886-999-00	CUSHION (RIGHT-E), LOWER
4-888-201-00	CUSHION (LEFT-E), LOWER

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked "♣" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers.
MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.

- F : nonflammable

COILS

- MMH : mH, UH : μH

The components identified by shading and mark ♣ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ♣ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS

In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501	△.1-534-817-XX	(AEP).....CORD, POWER, EULO PLUG
502	△.1-535-118-00	TERMINAL
503	△.1-551-511-00	(US,Canadian,E)...CORD, POWER
504	△.1-551-884-00	(UK).....CORD, POWER
505	△.1-609-255-00	(AEP,UK).....PC BOARD, MAIN
505	△.1-609-258-00	(US,Canadian,E)...PC BOARD, MAIN
506	△.1-609-259-00	PC BOARD, POWER
507	△.1-609-260-00	PC BOARD, CONNECTOR
508	△.A-2095-512-A	(US,Canadian,AEP)...MOUNTED PCB, POWER
508	△.A-2095-521-A	(UK).....MOUNTED PCB, POWER
508	△.A-2095-522-A	(E).....MOUNTED PCB, POWER
509	1-533-165-00	(AEP)....HOLDER, FUSE
BATT	1-528-128-00	RECHARGEABLE BATTERY, NICKEL-CADMIUM
BZ201	1-529-010-00	BUZZER
C1	△.1-123-382-00	ELECT 3.3MF 20% 50V
C2	1-123-380-00	ELECT 1MF 20% 50V
C3	1-102-124-00	CERAMIC 0.0039MF 10% 50V
C4	1-108-871-00	MYLAR 0.15MF 20% 50V
C5	1-123-332-00	ELECT 47MF 20% 16V
C6	△.1-123-336-00	ELECT 470MF 20% 25V
C8	△.1-123-337-00	ELECT 1000MF 20% 25V
C9	△.1-123-362-00	ELECT 330MF 20% 50V
C10	1-101-004-00	(UK,E).....CERAMIC 0.01MF 50V
C10	1-102-129-00	(US,Canadian,AEP).CERAMIC 0.01MF 10% 50V
C12	△.1-123-379-00	ELECT 0.47MF 20% 50V
C13	1-123-356-00	ELECT 10MF 20% 25V
C14	1-123-380-00	ELECT 1MF 20% 50V
C15	1-102-123-00	CERAMIC 0.0033MF 10% 50V
C16	1-123-356-00	ELECT 10MF 20% 25V
C17	1-123-381-00	ELECT 2.2MF 20% 50V
C101	1-102-973-00	CERAMIC 100PF 5% 50V
C102	1-102-973-00	CERAMIC 100PF 5% 50V
C103	1-101-004-00	(AEP,UK).....CERAMIC 0.01MF 50V
C103	1-102-129-00	(US,Canadian,E)...CERAMIC 0.01MF 10% 50V
C104	1-123-381-00	ELECT 2.2MF 20% 50V
C201	△.1-161-744-00	(AEP,UK,E).....CAP, CERAMIC 0.01MF 400V
C201	△.1-161-749-00	(US,Canadian)...CAP, CERAMIC 0.01MF 125V
△CNJ201.1-526-694-00	(AEP).....OUTLET, AC	
△CNJ201.1-526-751-00	(UK).....OUTLET, AC	
△CNJ201.1-526-765-00	(US,E).....OUTLET, AC	
△CNJ201.1-526-766-00	(Canadian)....OUTLET, AC	
△CNJ202.1-526-694-00	(AEP).....OUTLET, AC	
△CNJ202.1-526-751-00	(UK).....OUTLET, AC	

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked "△" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (△-△△△-△△△-XX or △-△△△△-△△△-X) may be different from those used in the set.

CAPACITORS:

- All capacitors are in μF. Common capacitors are omitted. Refer to the following lists for their part numbers. MF:μF, PF:μF.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.

- F: nonflammable

COILS

- MMH: mH, UH: μH

ELECTRICAL PARTS

Ref.No.	Part No.	Description
CNP1	△.1-560-039-00	PIN, CONNECTOR
D1	△.8-719-815-85	(E)....DIODE 1S1585
D1	△.8-719-920-04	(US,Canadian,AEP,UK)...DIODE ERB12-04RK
D2	8-719-815-85	DIODE 1S1585
D3	8-719-815-85	DIODE 1S1585
D4	8-719-815-85	DIODE 1S1585
D5	8-719-815-85	DIODE 1S1585
D6	8-719-815-85	DIODE 1S1585
D7	△.8-719-920-04	DIODE ERB12-04RK
D8	△.8-719-815-85	(E)....DIODE 1S1585
D8	△.8-719-920-04	(US,Canadian,AEP,UK)...DIODE ERB12-04RK
D9	△.8-719-920-04	DIODE ERB12-04RK
D10	△.8-719-511-20	DIODE S1VB20
D11	8-719-100-68	DIODE RD13E-B2
D12	8-719-101-02	DIODE RD30E-B4
D13	8-719-156-25	DIODE RD5.6E-B2Z
D14	8-719-815-85	DIODE 1S1585
D15	△.8-719-815-85	DIODE 1S1585
D16	8-719-100-39	DIODE RD6.2E-B
D17	8-719-815-85	DIODE 1S1585
D18	8-719-100-62	DIODE RD11E-B3
D19	8-719-815-85	DIODE 1S1585
D20	8-719-100-57	DIODE RD10E-B2
D101	8-719-815-85	DIODE 1S1585
D102	8-719-815-85	DIODE 1S1585
D103	8-719-815-85	DIODE 1S1585
D104	8-719-815-85	DIODE 1S1585
D105	8-719-900-65	DIODE GL5PG5
D106	8-719-815-85	(AEP,UK).....DIODE 1S1585
F201	△.1-532-286-00	(AEP)....FUSE, TIME-LAG 2.5A
FL101	1-519-285-00	INDICATOR TUBE, FLUORESCENT
IC1	8-759-240-11	IC TC4011BP
IC101	1-806-632-00	IC M58847-612SP
Q1	8-729-663-47	TRANSISTOR 2SC1364
Q2	8-729-663-47	TRANSISTOR 2SC1364
Q3	8-729-663-47	TRANSISTOR 2SC1364
Q4	8-729-201-52	TRANSISTOR 2SA1015
Q5	8-729-663-47	TRANSISTOR 2SC1364
Q6	8-729-201-52	TRANSISTOR 2SA1015
Q8	8-729-201-52	TRANSISTOR 2SA1015
Q9	8-729-869-83	TRANSISTOR 2SB698-F
Q10	8-729-201-52	TRANSISTOR 2SA1015

The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS

In each case, U: μ, for example:
 UA....: μA...., UPA....: μPA...., UPC....: μPC,
 UPD....: μPD....

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
Q11	8-729-201-52	TRANSISTOR	2SA1015			
Q12	8-729-201-52	TRANSISTOR	2SA1015			
Q101	8-729-663-47	TRANSISTOR	2SC1364			
R1	1-247-155-00	CARBON	10K	5%	1/4W	
R2	1-247-171-00	CARBON	47K	5%	1/4W	
R3	1-247-155-00	CARBON	10K	5%	1/4W	
R4	1-247-155-00	CARBON	10K	5%	1/4W	
R5	1-247-155-00	CARBON	10K	5%	1/4W	
R6	1-247-171-00	CARBON	47K	5%	1/4W	
R7	1-247-171-00	CARBON	47K	5%	1/4W	
R8	1-247-155-00	CARBON	10K	5%	1/4W	
R9	1-247-155-00	CARBON	10K	5%	1/4W	
R10	1-246-437-00	CARBON	33	5%	1/4W	
R11	1-247-155-00	CARBON	10K	5%	1/4W	
R12	1-247-155-00	CARBON	10K	5%	1/4W	
R13	1-246-521-00	CARBON	100K	5%	1/4W	
R14	1-247-171-00	CARBON	47K	5%	1/4W	
R15	1-246-473-00	CARBON	1K	5%	1/4W	
R16	1-247-155-00	CARBON	10K	5%	1/4W	
R17	1-247-155-00	CARBON	10K	5%	1/4W	
R18	1-246-529-00	CARBON	220K	5%	1/4W	
R19	1-246-537-00	CARBON	470K	5%	1/4W	
R20	1-247-171-00	CARBON	47K	5%	1/4W	
R21	1-247-171-00	CARBON	47K	5%	1/4W	
R22	1-247-147-00	CARBON	4.7K	5%	1/4W	
R23	△.1-213-132-00	(US,Canadian,AEP,E)				
	METAL	OXIDE	120	5%	1W F
R23	△.1-213-134-00	(UK).....METAL	OXIDE	180	5%	1W F
R24	△.1-206-656-00	METAL OXIDE	470	5%	2W	F
R25	1-247-171-00	CARBON	47K	5%	1/4W	
R26	1-246-501-00	CARBON	15K	5%	1/4W	
R27	1-246-501-00	CARBON	15K	5%	1/4W	
R32	1-246-477-00	CARBON	1.5K	5%	1/4W	
R33	1-246-471-00	CARBON	820	5%	1/4W	
R34	1-246-505-00	CARBON	22K	5%	1/4W	
R35	1-246-517-00	CARBON	68K	5%	1/4W	
R36	1-246-449-00	CARBON	100	5%	1/4W	
R37	1-246-481-00	CARBON	2.2K	5%	1/4W	
R38	1-246-433-00	CARBON	22	5%	1/4W	
R39	1-247-171-00	CARBON	47K	5%	1/4W	
R40	1-247-179-00	CARBON	100K	5%	1/4W	
R41	1-247-123-00	CARBON	470	5%	1/4W	
R42	1-247-125-00	CARBON	560	5%	1/4W	

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked "△" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (△-△△△-△△△-XX or △-△△△△-△△△-X) may be different from those used in the set.

CAPACITORS:

- All capacitors are in μ F. Common capacitors are omitted. Refer to the following lists for their part numbers.
- MF: μ F, PF: μ F.

RESISTORS

- All resistors are in ohms. Common 1/4W, 1/8W and 1/16W carbon resistors are omitted. Refer to the following lists for their part numbers.

- F : nonflammable

COILS

- MMH : mH, UH : μ H

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R43	1-247-155-00	CARBON	10K	5%	1/4W	
R44	1-246-501-00	CARBON	15K	5%	1/4W	
R45	1-247-155-00	CARBON	10K	5%	1/4W	
R46	1-247-155-00	CARBON	10K	5%	1/4W	
R101	1-246-445-00	CARBON	68	5%	1/4W	
R102	1-247-147-00	CARBON	4.7K	5%	1/4W	
R103	1-247-147-00	CARBON	4.7K	5%	1/4W	
R104	1-247-125-00	CARBON	560	5%	1/4W	
RY201	△.1-515-438-00	(US,Canadian,AEP,E)...	RELAY			
RY201	△.1-515-443-00	(UK).....	RELAY			
S101	1-553-235-00	SWITCH, KEY BOARD				
S102	1-553-235-00	SWITCH, KEY BOARD				
S103	1-553-235-00	SWITCH, KEY BOARD				
S104	1-553-235-00	SWITCH, KEY BOARD				
S105	1-553-235-00	SWITCH, KEY BOARD				
S106	1-553-235-00	SWITCH, KEY BOARD				
S107	1-553-235-00	SWITCH, KEY BOARD				
S108	1-553-235-00	SWITCH, KEY BOARD				
S201	△.1-552-535-00	(E)....SWITCH, POWER VOLTAGE CHANGE				
S202	1-552-436-00	(E)....SWITCH, SLIDE				
T1	1-447-630-00	TRANSFORMER, DC-DC CONVERTER				
T201	△.1-447-599-00	(US,Canadian)....TRANSFORMER, POWER				
T201	△.1-447-600-00	(E).....TRANSFORMER, POWER				
T201	△.1-447-601-00	(AEP,UK).....TRANSFORMER, POWER				
X101	1-527-862-00	OSCILLATOR, CERAMIC				

The components identified by shading and mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SEMICONDUCTORS

- In each case, U : μ , for example:
UA....: μ A...., UPA....: μ PA...., UPC....: μ PC,
UPD....: μ PD....

Sony Corporation
Consumer Products Group
Technical Support Dept.

9-951-114-11

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English
83E04138-1
Printed in Japan
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